

94  
determining a power spectrum density ratio by measuring samples over a twenty millisecond time period, wherein the power spectrum density ratio is used to determine the integration time period.

---

#### REMARKS

The disclosure was objected to because of certain informalities. Specifically, a US Patent Application Serial Number must be entered. Appropriate correction has been made.

The drawings were objected to as failing to comply with 37 CFR 1.84(p)(5) because reference numbers 10 and 13, mentioned in the description, were not included in the drawings. Applicant submits Figure 1 with proposed corrections. Specifically, applicant added reference numbers 10 and 17 to Figure 1. Reference number 17 was mentioned on page 2, line 8, of the description. Applicant could not find any reference number 13 mentioned in the description.

Claims 1-4 were rejected under 35 USC §102(e) as being anticipated by Westcott et al (US Pat 6,298,083). Specifically, the Office Action alleges that Westcott discloses "determining an integration time based on said signal strength". In support thereof, the Office Action cites col. 7, line 65 to col. 8, line 36 of Westcott. Applicant respectfully traverses. Claim 1 has been amended to recite the limitation of "determining an integration time period *for performing a coherent integration...*" Support for this amendment can be found at page 2, lines 10-14 and page 9, lines 14-16. By contrast, Westcott discloses calculating *a number of coherent integration cycles N\_COH needed to provide the shortest total non-coherent integration time T\_NCOH*. Calculating a number of coherent integration cycles that will provide the shortest total non-coherent integration time is not the same as determining an integration time period for performing a coherent integration. Therefore, it is felt that claim 1 is patentable under 35 USC §102(e) over Westcott.

Claims 2-4 depend upon and include all the limitations of claim 1. For the aforementioned reasons, claim 1 is felt to be patentable under 35 USC §102(e) over Westcott. Therefore, it is also felt that claims 2-4 are patentable under 35 USC §102(e) over Westcott.

F

Claim 5 and 6 were rejected under 35 USC §102(e) as being anticipated by Westcott et al. The Office Action alleges that “the integration period must *inherently* have a minimum number of cycles and a maximum number of cycles in order to properly enable a correlation to take place”. The Office Action goes further to allege that “since such a minimum and maximum would correspond to a given value of signal strength, such values are read as thresholds”. Applicant respectfully disagrees. To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). The Office Action merely alleges that the integration period has a minimum and a maximum number of cycles. No extrinsic evidence is offered in support thereof. Applicant duly requests such extrinsic evidence be provided. Until such evidence is provided, it is felt that claims 5 and 6 are patentable under 35 USC §102(e) over Westcott et al. Additionally, claims 5 and 6 depend upon and include all the limitations of amended claim 1. Amended claim 1, for the aforementioned reason, is felt to be patentable under 35 USC §102(e) over Westcott et al. Therefore, it is more felt that claims 5 and 6 are patentable under 35 USC §102(e) over Westcott et al.

Claim 7 was rejected under 35 USC §102(e) as being anticipated by Westcott et al. Applicant respectfully disagrees. The Office Action alleges Westcott et al discloses, at col. 1, lines 47-54, col. 4, lines 44-62 and col. 56, lines 16-35, that “the signals received are estimated, given that the process is for searching within a frequency range so as to lock onto a wanted signal”. Assuming that Westcott et al does disclose what the Office Action alleges, claim 7 is performing a different step from what is allegedly disclosed. Claim 7 involves *measuring* a signal strength for a signal at an estimated frequency for the signal to be detected. By contrast, the Office Action alleges Westcott et al discloses *searching*, not measuring a signal strength, within a frequency range. Thus, the Office Action does not allege, nor does Westcott et al disclose, *measuring* a signal strength for a signal at an estimated frequency for the signal to be detected. It is therefore felt that claim 7 is patentable under 35 USC §102(e) over Westcott et al. Additionally, claim 7 depends upon, and includes all the limitations of, amended claim 1. Amended claim 1, for the aforementioned reason, is felt to be patentable under 35 USC §102(e) over Westcott et al. Therefore, it is more felt that claim 7 is patentable under 35 USC §102(e) over Westcott et al.

A

Claim 10 was rejected under 35 USC §102(e) as being anticipated by Westcott et al. Applicant respectfully disagrees. The Office Action alleges Westcott et al discloses, at col. 1, lines 30-46, that "the received frequency may differ from the original frequency by the Doppler shift". The cited portion of Westcott et al, however, discusses *searching* at different frequency offsets. Claim 10 relates to *measuring* a signal strength at a frequency at which the signal to be detected was transmitted. Thus, the Office Action does not allege, nor does Westcott et al disclose, *measuring* a signal strength for a signal at the transmitted frequency. It is therefore felt that claim 10 is patentable under 35 USC §102(e) over Westcott et al. Additionally, claim 10 depends upon, and includes all the limitations of, amended claim 1. Amended claim 1, for the aforementioned reason, is felt to be patentable under 35 USC §102(e) over Westcott et al. Therefore, it is more felt that claim 10 is patentable under 35 USC §102(e) over Westcott et al.

Claims 8 and 9 were rejected under 35 USC §103(a) as being unpatentable over Westcott et al as applied to claim 1 and further in view of the applicant's disclosure of prior art. Applicant respectfully disagrees. First, for the aforementioned reasons, claim 1 was amended and is felt to be patentable under 35 USC §102(e) over Westcott et al. Second, claim 8 depends upon and include all the limitations of claim 7 which, for the aforementioned reasons, was felt to be patentable under 35 USC §102(e) over Westcott et al. Third, claims 8 and 9 involves *measuring* a signal strength at a frequency estimated for a reference point and at a frequency indicated in a search message, respectively. The Office Action alleges that Westcott et al discloses that the longer it takes to lock onto a signal, the more time and energy is wasted. Thus, Westcott et al is disclosing *locking* onto a signal, not *measuring* a signal strength of a signal. For these reasons, it is felt that claims 8 and 9 are patentable under 35 USC §103(a) over Westcott et al in view of applicant's disclosure of prior art.

Claim 10 was rejected under 35 USC §103(a) as being unpatentable over Westcott et al as applied to claim 1 and further in view of the applicant's disclosure of prior art. Applicant respectfully disagrees. For the aforementioned reasons, claim 1 was amended and is felt to be patentable under 35 USC §102(e) over Westcott et al. Thus, it is felt that claim 10 is patentable under 35 USC §103(a) over Westcott et al in view of applicant's disclosure of prior art.

Claims 12-14 were rejected under 35 USC §103(a) as being unpatentable over Westcott et al as applied to claim 1 and further in view of Zhodzishsky et al (US Patent No.

6,313,789). Applicant respectfully traverses. First, claim 12 has been amended to recite the limitation that a power spectrum density ratio is determined "*by measuring samples over a twenty millisecond time period, wherein the power spectrum density ratio is used to determine the integration time period*". Support for this amendment can be found on page 8, line 26 to page 9, line 13. Neither Westcott et al nor Zhodzishsky et al disclose such a manner of determining a power spectrum density ratio. Second, Zhodzishsky et al involves using the power spectrum density ratio for tracking signals, not for searching signals. It would not have been obvious to apply a technique for tracking signals to searching signals. Third, claim 1 was amended and felt to be patentable under 35 USC §102(e) over Westcott et al. Therefore, it is felt that claim 12, as amended, is patentable under 35 USC §103(a) over Westcott et al in view of Zhodzishsky et al.

Claims 13 and 14 depend upon, and include all the limitations of, claim 12. For the aforementioned reason, claim 12 was felt to be patentable under 35 USC §103(a) over Westcott et al in view of Zhodzishsky et al. Thus, it is also felt that claims 13 and 14 are patentable under 35 USC §103(a) over Westcott et al in view of Zhodzishsky et al.

No additional fees are due.

Respectfully submitted,  
Byron Hua Chen  
Tung Ching Chiang  
Ren Da  
Ibrahim Tekin



Jimmy Goo  
Reg. No. 36,528  
(973) 386-6377

Date: 16 April 2002

Marked Up Version of Replacement Paragraph and Claims

On page 1, lines 5-17, replace the existing paragraph with the following paragraph.

Related subject matter is disclosed in the following applications and assigned to the same Assignee hereof: U.S. Patent Application Serial No. 08/927,434 entitled "An Auxiliary System For Assisting A Wireless Terminal In Determining Its Position From Signals Transmitted From A Navigation Satellite," inventors Robert Ellis Richton and Giovanni Vannucci; U.S. Patent Application Serial No. 08/927,432 entitled "Telecommunications Assisted Satellite Positioning System," inventors Giovanni Vannucci; U.S. Patent Application Serial No. 09/321,075 entitled "Wireless Assisted GPS Using A Reference Location," inventors Robert Ellis Richton and Giovanni Vannucci; and U.S. Patent Application Serial No. 60/114,491 entitled "Wireless Assisted Satellite Location Using a Reference Point," inventors Robert Ellis Richton and Giovanni Vannucci. Related subject matter is disclosed in the following application filed concurrently herewith and assigned to the same Assignee hereof: U.S. patent application entitled "Satellite-Based Location System Employing Knowledge-Based Sequential Signal Search Strategy", Serial No. 09392,765, inventors Ren Da and Giovanni Vannucci.

On page 14, lines 2-6, replace the existing paragraph with the following paragraph.

[Disclosed is a] A method and apparatus for facilitating detection of satellite signals using a dynamic integration technique in which integration time periods of correlators are adjusted according to signal strength measurements of satellite signals received at GPS receivers. Specifically, integration time periods are inversely adjusted, either proportionally or non-proportionally, to received strengths of signals being searched.

Replace claims 1 and 12.

1. (once amended) A method for detecting a plurality of signals comprising the steps of:
  - measuring a strength of signals being transmitted on a frequency associated with a signal to be detected;
  - determining an integration time period for performing a coherent integration based on the measured strength of signals; and

A

searching for the signal to be detected using a correlator for the determined integration time period.

12. (once amended) The method of claim 1, wherein the step of determining the integration time period [periods] include the step of:

determining a power spectrum density ratio by measuring samples over a twenty millisecond time period, wherein the power spectrum density ratio is used to determine the integration time period.

4.